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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,717	01/12/2004	Karlo Popp	054821-0879	9773

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EXAMINER

WILLIAMS, SHERMANDA L

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/755,717

Applicant(s)

POPP, KARLO

Examiner

Shermanda L. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/12/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 1/12/2004 has been considered by the examiner.

Drawings

2. The drawings are objected to because Figure 2 contains two reference character 9. One reference character 9 has no lead indicating the part of the drawing it represents. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, it is unclear what the applicant meant by "pole sleeve having an inner casing". A pole sleeve would not have an inner casing. However, a pole sleeve would have an inner surface. Also, it is unclear what component the applicant is referring to by "it" in the phrase "the connecting pole being closed from the outside of the rechargeable battery such that it is liquid-tight and gas-tight". For the purpose of prosecution, the inner casing of the pole sleeve is interpreted as the inner surface of the pole sleeve.

5. In claim 7, what the applicant is referring to as an "insertion opening in the pole sleeve" is unclear. The applicant has not pointed out structurally, what is meant by an "insertion opening in the pole sleeve".

Claims depending from claims rejected under 35 USC 112, second paragraph are also rejected for the same reason.

Claim Rejections - 35 USC § 103

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quist (US 4,410,610) in view of Adams et al. (US 4,859,547). Quist discloses a pole bushing for batteries comprised of a metal sleeve. The connecting pole passes through the pole sleeve and is electrically connected to the pole sleeve via an upper connection 1 (col. 1 lines 16-21; col. 2, lines 18-23; See Figure 3). The metal sleeve forms a fluid tight seal with the sealing material (col. 2 lines 32-36). The rubber seal material 4 or sliding element, which is in the form of a ring shape, is positioned between the pole shank and the sleeve (See Figure 3) covering the pole shank. The seal is integrally formed on the cover. The pole sleeve is attached to the battery cover 5 (col. 2, lines 6-12). Quist does not teach that the terminal pole is closed from the outside.

8. Adams et al. (herein after Adams '547) teaches a battery terminal post having a first and second bushing or sleeve. The first and second bushing are assembled together and formed in the opening of the container or casing wall (col. 3 lines 65-68). The second bushing is has an attachment section 12 used to attached the pole sleeve to the battery cover or casing wall (col.3 lines 30-37; See Figures 3, 4, 5). The seal connection between the battery sleeve and the casing wall prevents the leakage from the battery. It would have been obvious to one having ordinary skill in the art at the time

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the invention was made to include a terminal pole cover **22** on the outer end of the terminal pole in order to seal off any remaining interstices between the battery post and bushing as taught by Adams et al. (see col. 6, lines 20-36 of Adams et al.).

9. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quist (US 4,410,610) in view of Adams et al. (US 4,859,547) as applied to claim 1 above, and further in view of McHenry et al. (US 5,273,845). Quist as modified by Adams '547 does not teach that the sliding element is constructed from plastic or that it is integrally formed on the cover as a unitary structure. Quist does disclose that the sliding element is integrally formed on the cover (See Figure 3).

10. McHenry et al. (herein after McHenry '845) teaches a terminal structure and seal. The plastic seal **24** is integrally formed with the battery cover (col. 2 lines 30-38). McHenry '845 teaches a plastic sealing member between the pole shank and the metal bushing (See Figure 2). Having the plastic seal formed integrally with the battery cover alleviates the need to weld the metal sleeve to the battery cover and alleviates the need for the pole sleeve to be resistant to the electrolyte material (col. 3 lines 3-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use plastic instead of rubber to seal the pole shank because plastic is resistant to corrosion from battery electrolyte and is a good sealing material. Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the seal integral with the battery cover since it has been held that making elements integral which has formerly been multiple pieces and put together involves only routine skill in the art, see *Schenck v. Nortron Corp*, 713 F.2d 782, 281 USPQ 698

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(Fed. Cir. 1983); *Nerwin v. Erlichman* 168 USPQ 177 (PO Bd Pat App 1969); *In re Wolfe* 116 USPQ 443 (CCPA 1958).

11. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quist (US 4,410,610) in view of Adams et al. (US 4,859,547) and (Dougherty et al. (US 4,775,604). Quist discloses a pole bushing for batteries comprised of a metal sleeve. The connecting pole passes through the pole sleeve and is electrically connected to the pole sleeve via an upper connection 1 (col. 1 lines 16-21; col. 2, lines 18-23; See Figure 3). The metal sleeve forms a fluid tight seal with the sealing material (col. 2 lines 32-36). The rubber seal material 4 or sliding element is positioned between the pole shank and the sleeve (See Figure 3) and forms a covering on the pole shank. Quist does not teach that the sliding element is a coating applied to the pole shank or that the terminal pole is closed from the outside.

12. Adams et al. (herein after Adams '547) teaches a battery terminal post having a first and second bushing or sleeve. The first and second bushing are assembled together and formed in the opening of the container or casing wall (col. 3 lines 65-68). The second bushing is has an attachment section 12 used to attached the pole sleeve to the battery cover or casing wall (col.3 lines 30-37; See Figures 3, 4, 5). The seal connection between the battery sleeve and the casing wall prevents the leakage from the battery. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a terminal pole cover 22 on the outer end of the terminal pole in order to seal off any remaining interstices between the battery post and

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bushing as taught by Adams et al. (see col. 6, lines 20-36 of Adams et al.). Neither Quist nor Adams teaches that the sliding element is a coating on the pole shank.

13. Dougherty et al. (herein after Dougherty '604) discloses a method and apparatus for sealing a battery terminal post. The battery cover container and the lead are is sealed with a rubber bushing or sleeve (see Abstract). A silicon oil is used is to prevent the migration of the electrolyte along the terminal post therefore preventing corrosion of the outer surface of the terminal post (col. 3 lines 12-16; see Abstract). As well, the silicon oil acts as a lubricant to accommodate movement between the terminal post and the bushing (col. 3 lines 42-49).

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the battery pole of Quist to include a coating on the battery pole such as taught Dougherty '604 in order to allow the pole to be inserted into the sleeve with ease.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quist (US 4,410,610) in view of Adams et al. (US 4,859,547) as applied to claim 1 above, and further in view of Jensen (US 4,164,609). Quest as modified by Adams '547 does not teach that the sliding element is a ring on an insertion opening in the pole sleeve.

16. Jensen teaches a battery having a seal between the post or pole and the cover. A first stuffing box or sleeve is located around the battery post. The stuffing box **18** accommodates an o-ring **20** fitted in a groove between the stuffing box and the battery post (See Figure 1). The apparatus may employ an outer and inner stuffing box both having a groove for the positioning of an o-ring (See Figure 3). It would have been

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obvious to one having ordinary skill in the art at the time the invention was made to modify the pole sleeve of Quist to include the seal o-ring in the pole sleeve as taught by Jensen in order to allow slippage of the battery post.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hardigg et al. (US 4,495,260) discloses a sliding seal lead bushing; Backer et al. (US 4,076,908) discloses a pole bolt seal for storage batteries; Babusci et al. (US 3,434,883) discloses a cylindrical lead acid battery; and Beetem (US 1,960,200) discloses a force feed grease seal for storage batteries; Sharpe et al. (US 3,652,340) discloses a post seal for a lead acid battery.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shermanda L. Williams whose telephone number is (571) 272-8915. The examiner can normally be reached on Mon.-Thurs. 7 AM - 4:30 PM and alternating Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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PRIMARY EXAMINER